#14/A
PATENT 1-16-02

Docket No. 406462000200

**CERTIFICATE OF MAILING BY "FIRST CLASS MAIL"**

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Nora Durant

Nora Durant

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

George H. LOWELL, et al.

Serial No.: 09/214,701

Filing Date: September 30, 1999

For: PROTEIN AND PEPTIDE VACCINES FOR INDUCING MUCOSAL IMMUNITY

Examiner: J. Parkin

Group Art Unit: 1648

**RESPONSE UNDER 35 C.F.R. §1.115**

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action of August 28, 2001, please enter and consider the following. An extension of time is also filed herewith extending the due date to December 28, 2001.

In the Sequence Listing:

Please insert the attached paper copy of the Sequence Listing as new pages 1-7 in the above-captioned application. A computer-readable copy (CRF copy) of the Sequence Listing accompanies this response.

In the Specification

Please add the following to line 1, page 1, of the Specification, after the title:

--Cross-Reference to Related Applications

This application is a National Stage entry of International Application Number PCT/US97/12253, filed July 10, 1997, which claims priority to US Provisional Application Number 60/021,687, filed July 10, 1996, now abandoned. These applications are hereby incorporated by reference in their entirety.--

A1 cont

Please replace the paragraph beginning at page 8, line 4, with the following rewritten paragraph:

--The endogenous hydrophobic sequence or the exogenous hydrophobic sequence is an amino acid sequence is preferably between about 5 and about 29 residues. Preferred short exogenous hydrophobic sequences are Phe-Leu-Leu-Ala-Val (SEQ ID NO:2) or Val-Ala-Leu-Leu-Phe (SEQ ID NO:3). The exogenous hydrophobic material may also be C8-C18 fatty acyl group, preferably lauroyl.--

A2

Please replace the paragraph beginning at page 26, line 3, with the following rewritten paragraph:

--The results of several tests of the production and use of the present vaccine composition are detailed in TABLES 2-4. All vaccines were prepared as described below. Briefly, the peptides, with or wthout added cysteines, were synthesized by standard solid phase technology. While still on the resin, a lauroyl group was added to the amino terminus as described below or the pentapeptide hydrophobic foot, Phe-Leu-Leu-Ala-Val (FLLAV) (SEQ ID NO:2), was added by simply continuing the synthesis. Except when noted otherwise, all vaccines were prepared by dissolving the peptides and/or the proteosomes in TEEN-1% detergent buffer and then exhaustively dialyzing away the detergent.--

A3

Please replace the paragraph beginning at page 31, line 9, with the following rewritten paragraph:

--The synthetic DNA hydrophobic decapeptide anchor sequence (1 μg) identified below was then added and ligated to the SmaI/SalI cut pR32 (100ηg) in 30 μl ligase buffer with one unit of T4-DNA ligase at 4°C for 16 hours. The hydrophobic decapeptide coding sequence was:

A4

5' GGT GGT TAC TGC TTC GTT GCT CTG CTG TTC TGA G (SEQ ID NO:17)

3'CCA CCA ATG ACG AAG CAA CGA GAC GAC AAG ACT CAGCT (SEQ ID NO:18).--